

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1 16. (Currently Amended) A system design method comprising:
2 receiving a system design including components connected via component ports
3 from a system designer;
4 for each of the component ports, identifying a set of alternative
5 bus/communication protocols supported by the component port;
6 comparing the sets of alternative bus/communication protocols of the component
7 ports to identify a subset of the sets of alternative bus/communication protocols supported by all
8 of the component ports; and
9 selecting one of the subset of the bus/communication protocols to implement
10 connections between the components via the component ports.

1 17. (Previously Presented) The system design method of claim 16,
2 wherein comparing the sets of alternative bus/communication protocols comprises:
3 comparing a parameter value of a first one of the set of alternative
4 bus/communication protocols supported by a first one of the component ports with
5 corresponding parameter values of each of the sets of alternative bus/communication protocols
6 supported by the other component ports to identify the subset of the bus/communication
7 protocols having compatible parameter values.

1 18. (Previously Presented) The system design method of claim 16,
2 wherein comparing the sets of alternative bus/communication protocols comprises:
3 comparing a operation of a first one of the set of alternative bus/communication
4 protocols supported by a first one of the component ports with corresponding operations of each
5 of the sets of alternative bus/communication protocols supported by the other component ports to
6 identify the subset of the bus/communication protocols having compatible operations.

1 19. (Previously Presented) The system design method of claim 18,
2 wherein the subset of the bus/communication protocols having compatible operations includes a
3 first operation associated with a first one of the component ports and a complementary operation
4 associated with at least one of the other component ports.

1 20. (Previously Presented) The system design method of claim 16,
2 wherein comparing the sets of alternative bus/communication protocols comprises:
3 comparing a connection value of a first one of the set of alternative
4 bus/communication protocols supported by a first one of the component ports with
5 corresponding connection values of each of the sets of alternative bus/communication protocols
6 supported by the other component ports to identify the subset of the bus/communication
7 protocols having compatible connection values.

1 21. (Previously Presented) The system design method of claim 18,
2 wherein the subset of the bus/communication protocols having compatible connection values
3 includes an input for a first operation associated with a first one of the component ports and an
4 output for the first operation associated with at least one of the other component ports.

1 22. (Previously Presented) The system design method of claim 16,
2 wherein comparing the sets of alternative bus/communication protocols comprises:
3 comparing a role value of a first one of the set of alternative bus/communication
4 protocols supported by a first one of the component ports with corresponding role values of each
5 of the sets of alternative bus/communication protocols supported by the other component ports to

6 identify the subset of the bus/communication protocols having compatible role values, wherein
7 each role value is associated with at least one connection value, wherein each connection value is
8 associated with at least one operation, wherein each operation is associated with at least one
9 parameter value.

1 23. (Currently Amended) The system design method of claim 16, wherein
2 selecting one of the subset of the bus/communication protocols to implement connections
3 between the components via the component ports comprises:

4 determining the number of bus/communication protocols included in the subset;
5 in response to the number of bus/communication protocols included in the subset
6 ~~being one, subset having a single bus/communication protocol~~, selecting the single
7 bus/communication protocol; and

8 in response to the subset being an empty set, notifying the system designer that
9 the connections between the components via the component ports cannot be made.

1 24. (Currently Amended) The system design method of claim 23, further
2 comprising:

3 in response to the number of bus/communication protocols included in the subset
4 ~~subset including being~~ at least two bus/communication protocols, automatically selecting one of
5 the subset of the bus/communication protocols to implement connections between the
6 components via the component ports.

1 25. (Currently Amended) The system design method of claim 23, further
2 comprising:

3 in response to the number of bus/communication protocols included in the subset
4 ~~subset including being~~ at least two bus/communication protocols, presenting the subset to the
5 system designer; and

6 receiving a selection from the system designer of one of the subset of the
7 bus/communication protocols to implement connections between the components via the
8 component ports.

1 26. (Previously Presented) The system design method of claim 16,
2 wherein identifying a set of alternative bus/communication protocols supported by the
3 component port comprises:

4 for each component port, retrieving corresponding component information from a
5 component library storing previously defined component information, wherein the corresponding
6 component information specifies at least a portion of at least one bus/communication protocol
7 supported by the component port.

1 27. (Previously Presented) The system design method of claim 26,
2 wherein the component library is stored in a database.

1 28. (Previously Presented) The system design method of claim 26,
2 wherein the component information specifies at least a portion of at least one bus/communication
3 protocol in an XML format.

1 29. (Cancelled)

1 30. (Cancelled)

1 31. (Previously Presented) The method of claim 16, further comprising:
2 analyzing the selected one of the subset of bus/communication protocols to
3 identify a first set of connections defined by the selected one of the subset of bus/communication
4 protocols;

5 analyzing the component ports of the components to identify the connections used
6 by the component ports of the components for the selected one of the subset of
7 bus/communication protocols; and

8 comparing the connections used by the component ports of the components with
9 the first set of connections to determine a portion of the first set of connections necessary to
10 implement the connections.